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APPLICANT: NIPPON SHEET GLASS CO LTD;

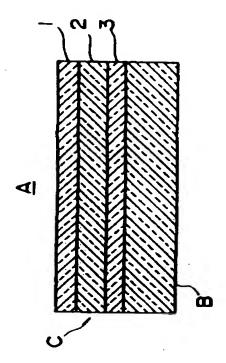
INVENTOR: FUJIMAKI KAZUHIKO;

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TITLE

TRANSPARENT LOW REFLECTER



ABSTRACT:

PURPOSE: To make a lowering of a reflectance in a region of center wavelength by increasing from a substrate side to an air side, the reflectance of the antireflection coating lying in the second layer among the three layers of the antireflection coating counting from the air side to the substrate side of the titled reflector.

CONSTITUTION: MgF₂ having the reflectance n₁ of 1.30-1.45 ranges is used as the material forming the first layer 1 having the low reflectance, the mixture of ZrO2 and TiO2 having the reflectance n₂ of 1.95~2.15 ranges is used as the material forming the second layer 2 having the high reflectance. The mixture of Al₂O₃ and CeF₃ having the reflectance n₃ of 1.60~1.80 ranges is used as the material forming the third layer 3 having the middle reflectance. The thicknesses n₁d₁~n₃d₃ of optical coatings in from the first layer to the third layer are $n_1d_1=\lambda_0/4$, $n_2d_2=\lambda_0/2$, and $n_3d_3=\lambda_0/4$ respectively. The reflectance of the transparent substrate B is 1.49-1.57. The coating C having ≥0.02 the difference of the reflectances between the air side A and the substrate side of the titled reflector is used as the second coating whereby the reflectance λ_{0} of the titled reflector in the region of the center wavelength depresses.

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